

**ASSOCIATE MECHANICAL ENGINEER**

**DEFINITION:**

Under direction, to perform professional mechanical engineering work related to the design, construction, cost estimation, operation, maintenance, and installation of a wide variety of operational mechanical power systems, facilities, and equipment; to analyze water, gas, waste plumbing, building automation, and control systems; to review energy conservation designs for compliance with applicable laws; to supervise subordinate technical staff engaged in such work; and to perform related work.

**DISTINGUISHING CHARACTERISTICS:**

Positions in this class are found in the Department of General Services and the Department of Planning and Land Use's Code Division. An Associate Mechanical Engineer may either (1) perform professional mechanical engineering work; or (2) serve as project supervisor over professional and technical personnel.

An Associate Mechanical Engineer differs from the next highest class, Senior Mechanical Engineer, in that the latter supervises a major engineering section or serves as project leader over a highly technical and specialized function.

**EXAMPLES OF DUTIES:**

**Project Engineer:**

Designs, reviews, and recommends layouts, plans, detailed specifications and diagrams of complex mechanical systems in connection with the design, installation, and inspection of a wide variety of mechanical facilities and equipment; examines and approves plans and contract designs with regard to cost estimates, adherence to specifications, and code requirements for the installation or conversion and operation of machinery and equipment; develops methods and engineering standards for testing and inspection of heating, ventilating, boilers, pumping units, lifting installations and similar mechanical systems, facilities, and equipment; calculates heat losses and mechanical efficiency; and confers with engineers, architects, and others with regard to the installation or conversion of mechanical operating systems.

**Project Supervisor:**

Plans, directs, coordinates, assigns, trains, and evaluates the work of subordinate professional and technical personnel responsible for reviewing plans, specifications, and calculations prepared by engineers, architects and contractors for the installation or conversion of mechanically powered operating systems, related machinery and equipment; supervises and carries out extensive inspections and investigations of heating, ventilating, air conditioning and pumping plants and equipment to insure contract and/or regulatory codes compliance; prepares reports; and supervises the operation of a Central Monitoring and Control System as a Building Automation Engineer.

**MINIMUM QUALIFICATIONS:**

**Thorough Knowledge of:**

- Modern mechanical engineering theory, principles and techniques applicable to design, construction and

maintenance of mechanical systems including centralized heating and cooling, gas, water, power generation, utility distribution, solar and waste systems.

- Mechanical engineering theory and principles relative to modern day requirements for energy conservation and noise attenuation.
- Structural and electrical engineering theory related to powered mechanical operating systems.
- The application of mechanical designs to the construction of buildings, including building automation systems, cogeneration systems and the requirements for plan preparation for code compliance.

**General Knowledge of:**

- Construction contract law, administration and labor relations.
- Organization and operation of private firms engaged in Mechanical Engineering services and facilities.
- Supervision and training methods and techniques.

**Skills and Abilities to:**

- Apply mechanical engineering techniques and practices to practical design, construction, inspection and operating problems.
- Originate prepare and check design plans, detail estimates, contracts and specifications.
- Communicate orally and in writing, to effectively provide technical expertise and information on layman and technical levels.
- Confer with the public and private officials, engineers and contractors and prepare professional and technical reports.
- Plan, supervise, train, and evaluate the work of subordinates.

**EDUCATION/EXPERIENCE:**

Education, training and/or experience which demonstrates the knowledge, skills and abilities stated above. An example of qualifying education/experience is: three (3) years of progressively responsible mechanical engineering experience in the following mechanical engineering areas: mechanical systems code compliance; development of energy conservation methodologies; technical writing; design of utility systems; analysis of water, gas, and waste plumbing systems; building automation; and related areas of mechanical engineering. Experience in providing full supervision over professional and technical staff in related areas is highly desirable.

**SPECIAL NOTES, LICENSES, OR REQUIREMENTS:**

**License:**

A valid California class C driver's license or the ability to arrange transportation for field travel is required at time of appointment and must be maintained throughout employment. Employees in this class may be required to use their own personal vehicle.

**Registration:**

Applicants must possess a valid State of California Certificate of Registration as a Mechanical Engineer.

**Probationary Period:**

Incumbents appointed to permanent positions in this class shall serve a probationary period of twelve (12) months (Civil Service Rule 4.2.5).

